

AMENDMENT TO THE DRAWINGS

The attached sheet(s) of drawings includes changes to Figs. 3, 16, 17, 42, 43, 62, 75, and 79. Also attached are annotated sheets showing the changes made to Figs. 3, 16, 17, 42, 43, 62, 75, and 79.

Attachment: Replacement Sheet(s), eight pages
Annotated Sheet(s) Showing Changes, eight pages

REMARKS

If clarification of the amendment or application is desired, or if issues are present which the Examiner believes may be quickly resolved, the Examiner is invited to initiate a telephone interview with the undersigned attorney to expedite prosecution of the present application.

If there are any additional fees resulting from this communication, please charge same to our Deposit Account No. 18-0160, our Order No. SAT-16280.

Respectfully submitted,

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By _____
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FIG.3

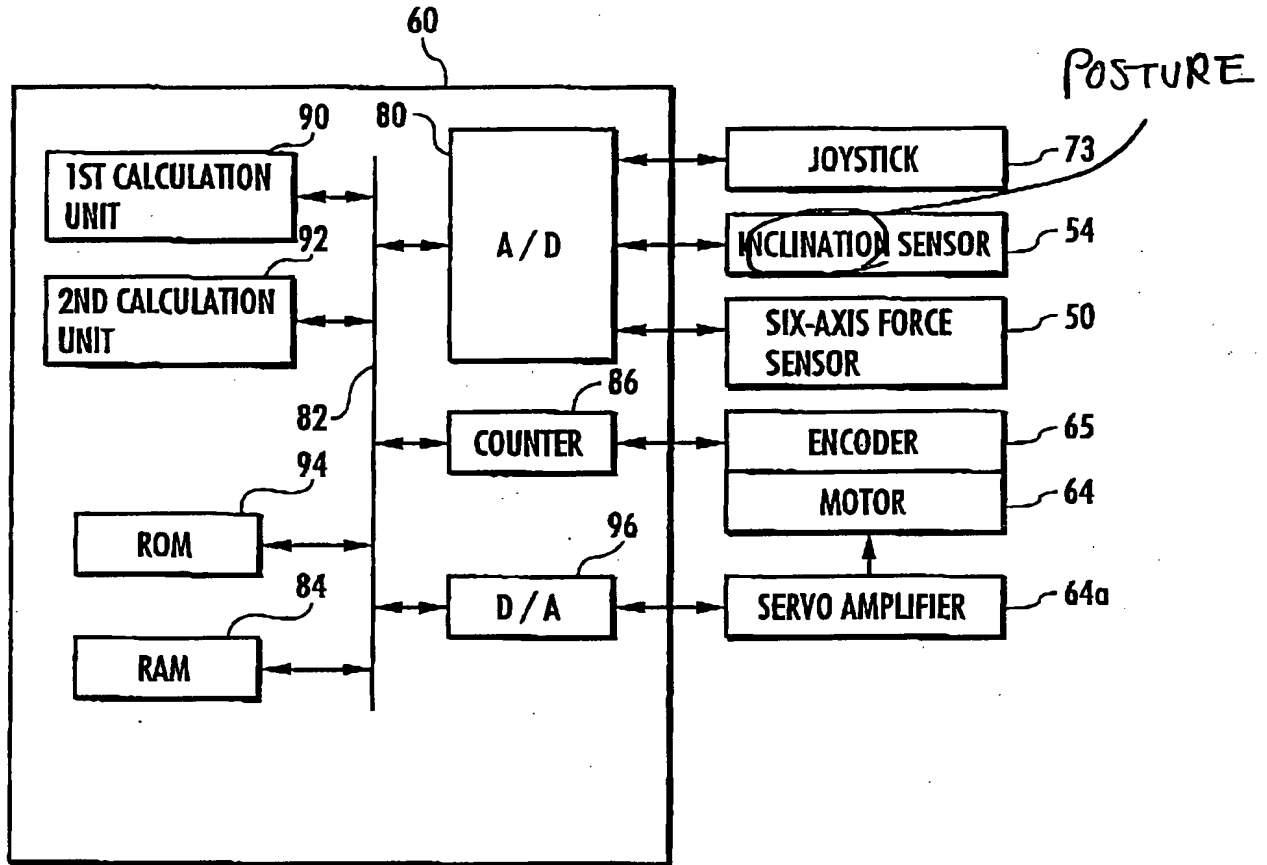


FIG.16

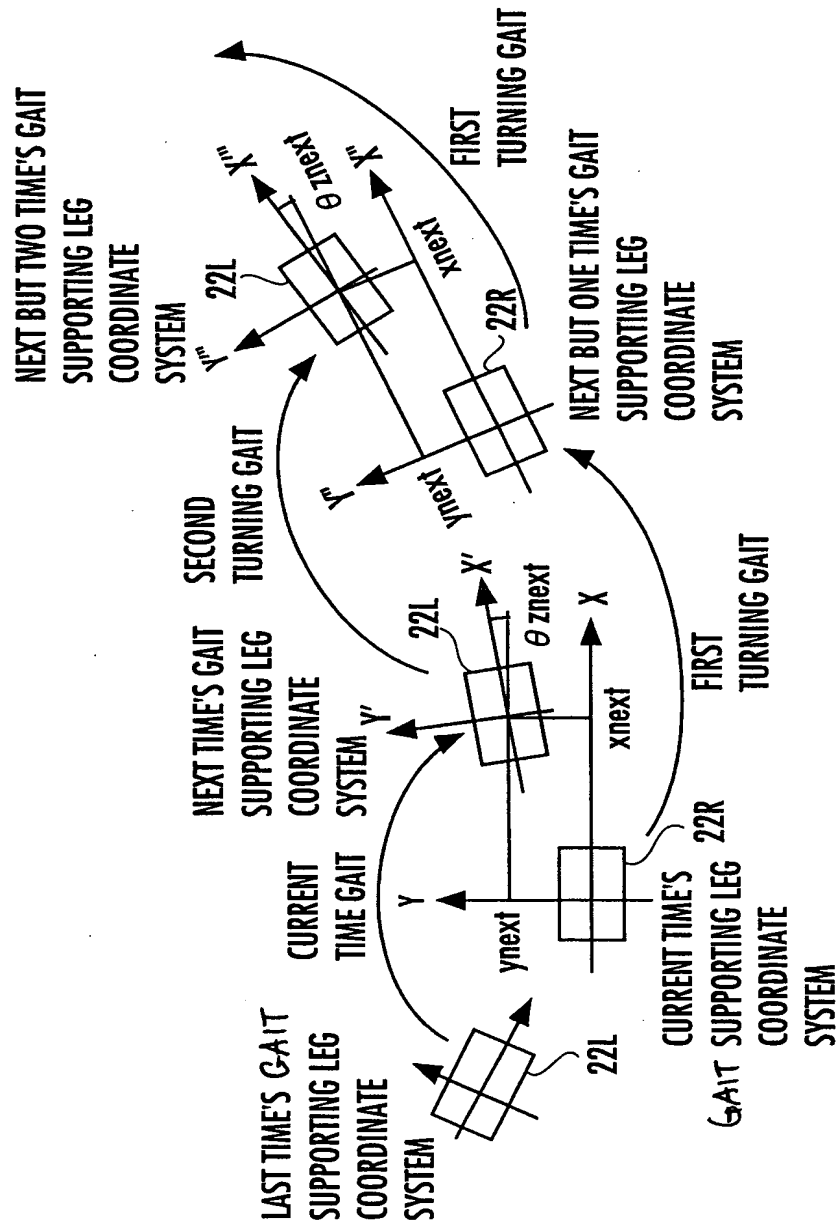
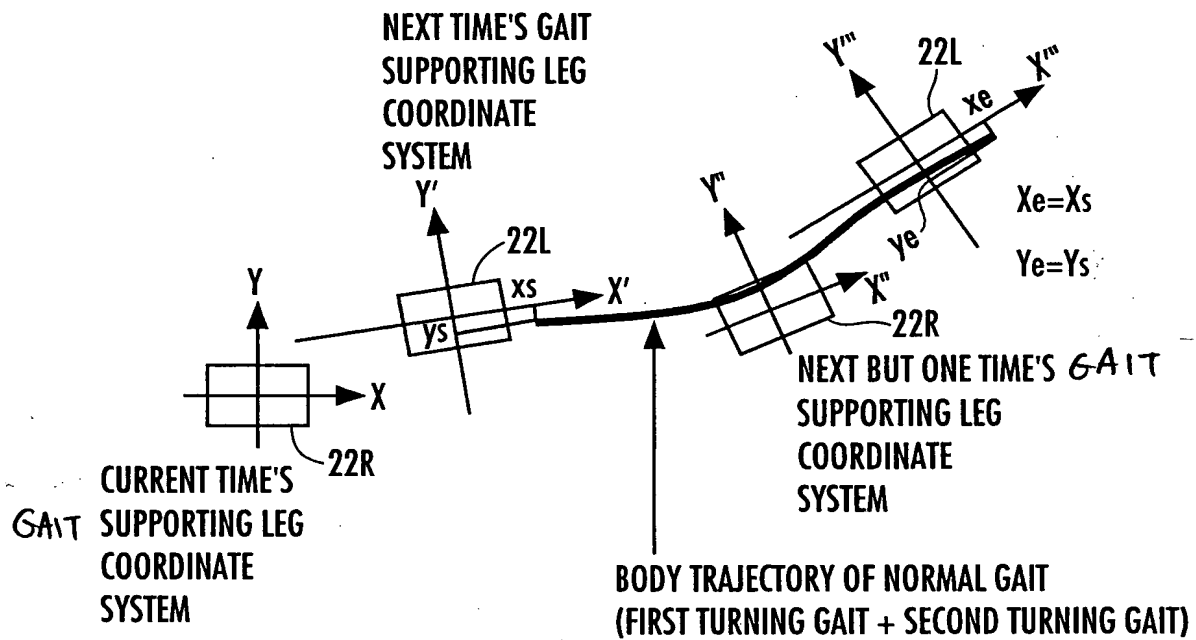


FIG.17



ENTRY

FIG. 42

S702
CALCULATE PROVISIONAL CURRENT TIME GAIT UNTIL END TIME ON THE BASIS OF PROVISIONAL DESIRED ZMP AND OTHER CURRENT TIME GAIT PARAMETERS.

S704
DETERMINE TERMINAL DIVERGENT COMPONENT $q0[k]$ ACCORDING TO THE FOLLOWING EQUATION FROM BODY POSITION/VELOCITY (Xe, Vxe) AT END OF CURRENT TIME GAIT.
 $q0[k] = Xe + Vxe / \omega 0$

S706
DETERMINE TERMINAL DIVERGENT COMPONENT ERROR $errq$ ACCORDING TO THE FOLLOWING EQUATION:
 $errq = q0[k] - q''$

S700

S708 yes

LEAVE REPETITION LOOP

IS $errq$ WITHIN PERMISSIBLE RANGE? ∞

S710

S712
CALCULATE PROVISIONAL CURRENT TIME GAIT UNTIL END TIME ON THE BASIS OF DESIRED ZMP OBTAINED BY ADDING CORRECTION TO PROVISIONAL DESIRED ZMP ACCORDING TO RELATIONSHIP OF FIG. 44, ASSUMING THAT $\alpha = \Delta \alpha$.

S714
DETERMINE TERMINAL DIVERGENT COMPONENT $q1[k]$ ACCORDING TO THE FOLLOWING EQUATION ON THE BASIS OF BODY POSITION/VELOCITY ($Xe1, Vxe1$) AT END OF CURRENT TIME GAIT RECALCULATED ON THE BASIS OF DESIRED ZMP TO WHICH CORRECTION HAS BEEN ADDED:
 $q1[k] = Xe1 + Vxe1 / \omega 0$

S716
DETERMINE PARAMETER SENSITIVITY r ACCORDING TO THE FOLLOWING EQUATION:
 $r = (q1[k] - q0[k]) / \Delta \alpha$

S718
ADD CORRECTION AMOUNT BASED ON $\alpha = -errq/r$ TO PROVISIONAL DESIRED ZMP TO PROVIDE UPDATED PROVISIONAL DESIRED ZMP.

S720
DETERMINE BODY INCLINATION RESTORING MOMENT ZMP-CONVERTED VALUE PATTERN ON THE BASIS OF DIFFERENCE BETWEEN TERMINAL BODY POSTURE ANGLE OF PROVISIONAL CURRENT TIME GAIT AND INITIAL BODY POSTURE ANGLE OF NORMAL GAIT AND DIFFERENCE BETWEEN TERMINAL BODY POSTURE ANGULAR VELOCITY OF PROVISIONAL CURRENT TIME GAIT AND INITIAL BODY POSTURE ANGULAR VELOCITY OF NORMAL GAIT.

S722
DETERMINE, AS DESIRED ZMP PATTERN, THE PATTERN OBTAINED BY ADDING BODY INCLINATION RESTORING MOMENT ZMP-CONVERTED VALUE PATTERN TO PROVISIONAL DESIRED ZMP PATTERN.

DETERMINE ANTIPHASE ARM SWING RESTORING ANGULAR ACCELERATION PATTERN ON THE BASIS OF DIFFERENCE BETWEEN TERMINAL ANTIPHASE ARM SWING ANGLE OF PROVISIONAL CURRENT TIME GAIT AND INITIAL ANTIPHASE ARM SWING ANGLE OF NORMAL GAIT AND DIFFERENCE BETWEEN TERMINAL ANTIPHASE ARM SWING ANGULAR VELOCITY OF PROVISIONAL CURRENT TIME GAIT AND INITIAL ANTIPHASE ARM SWING ANGULAR VELOCITY OF NORMAL GAIT.

RETURN

FIG.43

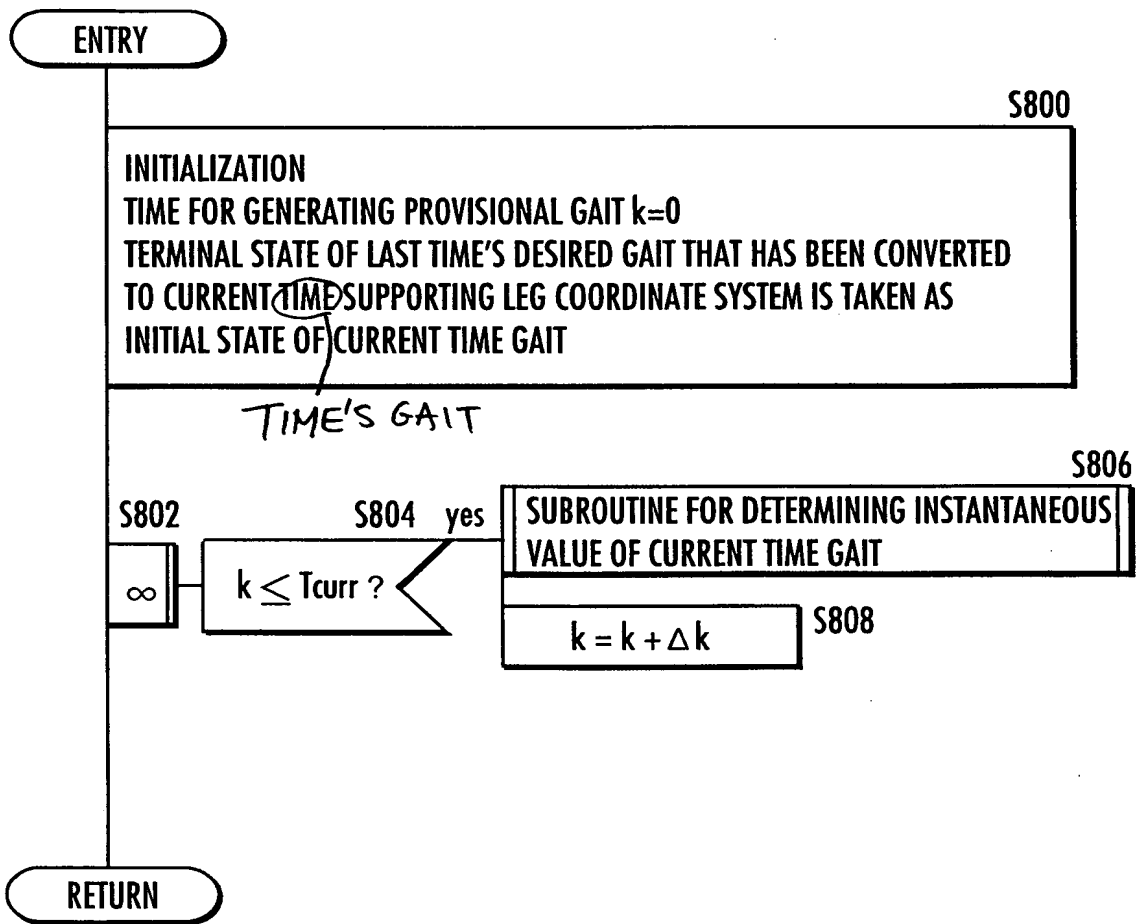
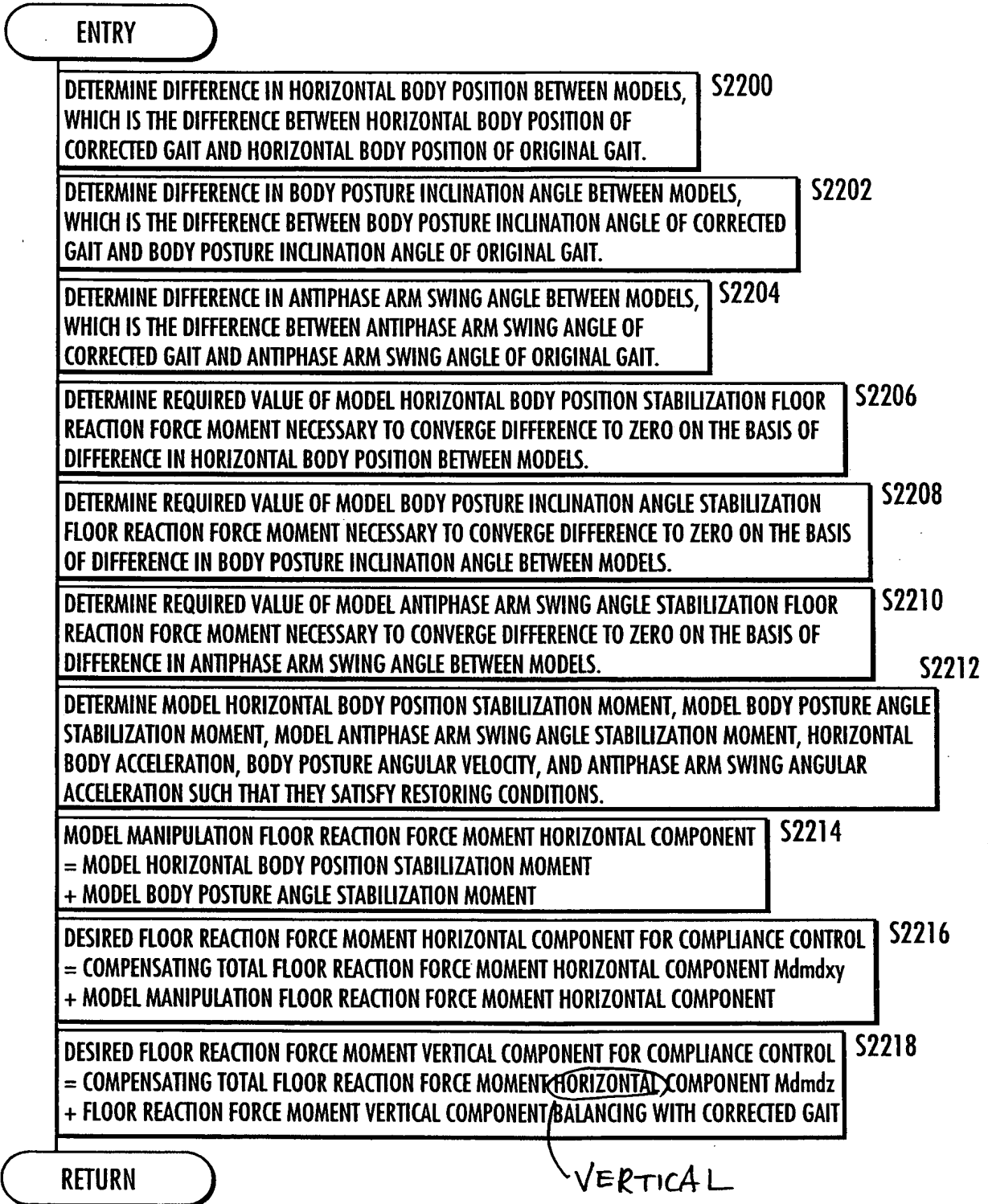


FIG.62



DESIRED ANTI PHASE ARM SWING ANGLE

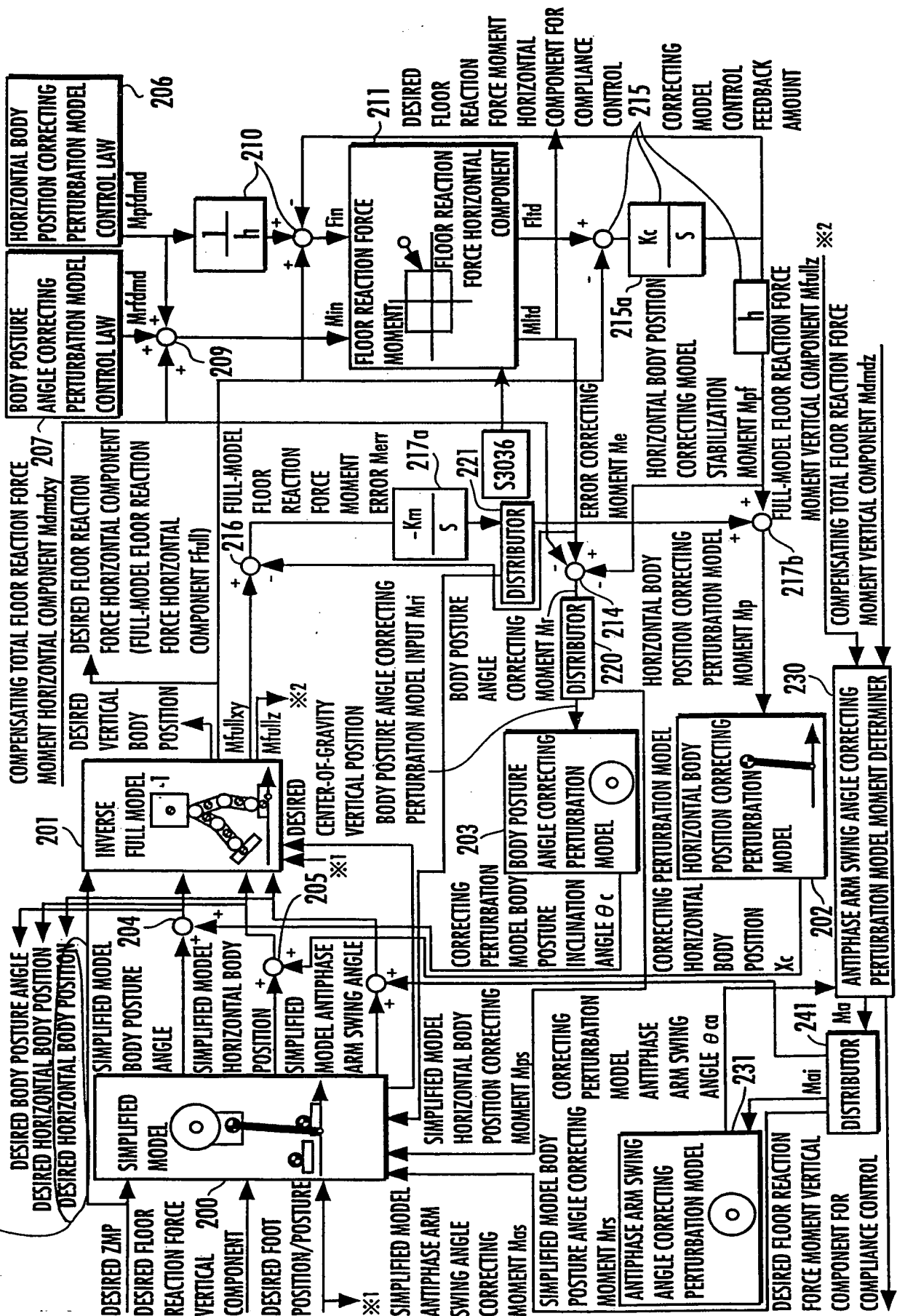


FIG.79

